



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/578,094

03/12/2007

Eui-jun Park

0005.1136

4767

49455

7590

09/01/2009

STEIN MCEWEN, LLP
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

EXAMINER

TRAN, KHAI

ART UNIT

PAPER NUMBER

2611

NOTIFICATION DATE

DELIVERY MODE

09/01/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptomail@smiplaw.com

Office Action Summary	Application No. 10/578,094	Applicant(s) PARK ET AL.	
	Examiner KHAI TRAN	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 30 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24, 27-34 and 36-38 is/are allowed.
- 6) ☒ Claim(s) 39-43, 44, 45-51, 52, 53 and 54 is/are rejected.
- 7) ☒ Claim(s) 44 and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/3/06, 2/15/07, 6/28/07, 10/31/08, 12/02/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 5, the arrows in the receiver comprising demodulator 410, equalizer 420 ... de-randomizer 460 should be from right to left. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled

Art Unit: 2611

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 39-43, 45-46, 47-51, 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birru et al (US 2003/0099303) cited by Applicant, in view of Mouldsley (U.S. Pat. 5,233,349).

Regarding claim 39, Birru et al discloses a digital broadcast receiver (see [0003]), comprising: a tuner (see Figure 2) to receive a data stream including known data; and a processor to process the data stream using the known data included in the data stream (see [0008], the recovered encoded data symbol are subjected to trellis decoding by trellis decoder unit 260), wherein the data stream is transmitted from a digital broadcast transmitter comprising a known data generator to generate known data, a known data inserting unit to add the known data to the data stream (see [0067]. Birru fails to disclose a Trellis encoder to perform Trellis encoding using internal memories and to reset the internal memories at a predetermined time point according to a control signal for controlling Trellis reset.

Moulsley discloses a transmitter as seen in Figure 12. A control signal 92 is generated from a control signal generation unit and is input to a trellis encoder 22 (column 12, lines 6-12). The trellis encoder performs trellis encoding of the input data stream. The control signal 92 is a reset signal and will reset the trellis (and the associated memories) at the beginning of the next parameter (column 12, lines 6-12). The resetting occurs so that the coder commences from a known position in the coding tree for each parameter (abstract). By resetting the coder before the next parameter is coded, the output of the tree coding means is dependent upon the value of that parameter alone and not upon any previous parameters. The resetting of the coding means will take different forms depending upon its realization. Known values, typically zeros, will be placed in the registers (column 3, lines 27-36). It would have been obvious for one of ordinary skill in the art at the time of the invention to include the resetting means of Moulsley into the digital broadcast transmitter of Birru. The resetting occurs so that the coder commences from a known position in the coding tree for each parameter (abstract). By resetting the coder before the next parameter is coded, the output of the tree coding means is dependent upon the value of that parameter alone and not upon any previous parameters. This will allow the receiver to be more accurate and prevent errors caused by the previous parameters from occurring.

Regarding claim 40, Birru also discloses the trellis encoder encodes the data stream including the known data and the encoded signal is modulated then transmitter (a control unit 214 of Fig. 3 used to for controlling a process of inserting known data).

Regarding claim 41, Birru discloses wherein an RS encoder (110) included in the digital broadcast transmitter compensates an RS parity of the data stream to correspond to the memory resetting.

Regarding claim 42, Birru discloses wherein the processor comprises: a demodulator (a tuner 210); an equalizer (250); and a known data detector (220) to detect the known data from the data stream, and provide at least one of the demodulator and the equalizer with the detected known data.

Regarding claim 43, Burri further discloses wherein the processor as shown in Figure 2, further comprises: a Trellis decoder (260) to perform Trellis decoding on the data stream processed by the equalizer; a de-interleaver (270) to perform de-interleaving on the Trellis decoded data stream; and a Reed-Solomon (RS) decoder (280) to perform RS decoding on the de-interleaved data stream.

Regarding claim 45, Burri discloses wherein the known data detector detects control information regarding location or length of the known data from the data stream, and restores the known data (see [0067]).

Regarding claim 46, Burri discloses wherein the data stream is processed to be robust against errors (see [0037]).

Claims 47-51, 53-54 are similar to claims 39-44, 46. Therefore, claims 47-51, 53-54 are rejected under a similar rationale.

Allowable Subject Matter

5. Claims 24, 27-33, 34, 36-38 are allowed.

Art Unit: 2611

6. Claims 44, 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Burri and Mouldsley fail to disclose a digital broadcast receiver comprising: sequence provider generating the known data having a particular sequence to replace the stuff bytes, a stuff byte replacer inserting the known data at the location of the randomized data stream where the stuff bytes are inserted; and wherein the encoder replaces the parity added by the RS encoder with newly generated parity for the know data altered according to an initialization of the trellis encoder.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 2611

9. Claims 39-43, 45-46, 47-51, 53-54 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S.

Application 12/261,826 and claims 1-6 of U.S. Application 12/261,842. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 39-43, 45-46, 47-51, 53-54 of the instant application merely broadens the scope of the claims 1-7 of U.S. Application 12/261,826 and claims 1-6 of U.S.

Application 12/261,842 by eliminating the elements and their functions of claims 1-7 of U.S. Application 12/261,826 and claims 1-6 of U.S. Application 12/261,842. It has been held that the omission an element and its function is an obvious expedient if the remaining elements perform the same function as before. In re Karlson, 136 USPQ 184 (CCPA). Also note Ex parte Rainu, 168 USPQ 375 (Bd.App.1969); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Allowable Subject Matter

10. Claims 24, 26-33, 34, 36-38 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art discloses a digital broadcast receiver comprising: a sequence provider generating the known data having a particular sequence to replace the stuff bytes, a stuff byte replacer inserting the known data at the location of the randomized data stream where the stuff bytes are inserted, wherein the encoder replaces the parity added by the RS encoder with newly generated parity for the know data altered according to an initialization of the trellis encoder.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Moulslet (U.S. Pat. 5,233,349) discloses a transmission and a decoding of tree-encoded parameters of analogue signals.

Fimoff (U.S. Pat. 6,608,870) disclose a data frame for 8 MHz channels.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571)272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KHAI TRAN/
Primary Examiner, Art Unit 2611

Application/Control Number: 10/578,094
Art Unit: 2611

Page 9

August 26, 2009